4. PROPOSED ALGORITHM

4.1 Introduction of RR

The Round Robin Scheduling Algorithm is performed with the time sharing system. Time-sharing means sharing a computing resource among many users. It supports multiprogramming and multitasking. By permitting a large number of users to interact concurrently with a single computer, time-sharing dramatically lowered the cost of providing computing capability. It is alike to First Come First Served (FCFS) Scheduling Algorithm, but preemption is added to switch between processes. A compact unit of time quantum is defined. A time quantum range is generally from 1 to 100 milliseconds. The ready queue is regarded as a circular queue when processes are scheduled in Round Robin (RR) manner. The CPU scheduler goes around the ready queue, assigning the CPU to each process for a time interval of up to allotted time quantum.

To execute Round Robin Scheduling a FIFO queue is used as a ready queue for processes. New running processes are added to the tail of the FIFO queue, set a timer to expire after allotted time quantum, and dispatched the process. One of the two things will then occur. The process may have a CPU burst of less than allotted time quantum. In this case, the process itself will release the CPU voluntarily. The scheduler will then begin to the next process in the FIFO queue. Otherwise, if the CPU burst of the currently running process is longer than allotted time quantum, the timer will go off and will cause an interrupt to the operating system. A context switch will be happening, and the process will be put at the end of the ready queue. The CPU schedulers will choose the next process in the ready queue and schedule it.